

REMARKS

Applicant thanks the Examiner for pointing out the claim misnumbering affecting the new claims that were introduced in Amendment "B" as claims 19-28, and acknowledges the renumbering of the same claims as claims 39-48. *See* Office Action, p. 2, item 1.

An Information Disclosure Statement (IDS) including form PTO-A820 listing four U.S. patents and copies of the patents listed therein was filed on December 13, 2000. Applicant respectfully requests that the items listed in this IDS be made of record regarding the present application and that they be considered in its examination.

Some of the rejected claims have been amended. No new matter has been added.

Applicant submits this Amendment "C" for the Examiner's consideration. Reexamination and reconsideration of the application, as amended, in view of the following remarks are respectfully requested.

1. STATUS OF THE CLAIMS

Claims 1, 2, 4, 6-15, and 39-48 were presented for examination; claims 1, 2, 4, 6-15, and 39-48 stand rejected and pending in the application. Claims 1, 2, 4, 6-15, and 39-48 stand rejected under 35 U.S.C. § 103(a). Some of the rejected claims have been amended. Claims 41, 46-48 have been amended to introduce the proper recital of their dependency on the corresponding claims that have been renumbered as claims 39-48.

2. RESPONSE TO REJECTIONS

2.1. Claim Rejections Under 35 U.S.C. § 103(a)

The following claims:

Independent claim 1, and dependent claims 2, 4, 6-9;

Independent claim 10, and dependent claims 11-12, 39-41;

Independent claim 13, and dependent claim 42;

Independent claim 14, and dependent claim 43;

Independent claim 15, and dependent claim 44; and

Independent claim 45, and dependent claims 46-48;

stand rejected under 35 U.S.C. § 103(a) as obvious over Lockwood, *et al.*, U.S. Pat. No. 4,697,143 (hereinafter "Lockwood"). See Office Action, p. 2, item 3.

The transmission line assembly disclosed in Lockwood is designed for attenuating microwave energy propagating along the ground plate of the wafer probe. See, e.g., Lockwood, col. 2, ll. 5-12. More specifically, the structural design of the wafer probe disclosed in Lockwood relies on a plurality of cooperative physical elements to sandwich transmission line assembly 19 and hold it as an operative part of the wafer probe. To this effect, the wafer probe in Lockwood relies on at least metal channel 35 and upper absorber layer 21 to sandwich and hold transmission line assembly 19 in a configuration such that electrical communication with connector 27 can be established. See, e.g., Lockwood, Figs. 1, 3, 4-7, col. 3, ll. 39-47, col. 5, ll. 15-20. This sandwiching is necessary in the device disclosed in Lockwood so that an effective electric contact between metal channel 35 and ground conductors 31 is established. See, e.g., Lockwood, Figs. 5, 7. Accordingly, Lockwood does not teach a substrate or a sheet that is coupled to an electric apparatus without the assistance of such cooperative physical elements for its support. Independent claims 1, 10, 13, 14, and 15 recite in

contrast a substrate (claim 1) or a sheet (claims 10, 13, 14, and 15) "for coupling to an electrical apparatus" such that this coupling "to said electric apparatus structurally supports said substrate [(claim 1) or the sheet (claims 10, 13, 14, and 15)] with said terminal end in electric contact with said electric apparatus". This language is incorporated into dependent claims 2, 4, 6 -9, 11-12, and 39-44 because they depend directly or through intervening claims from independent claims 1, 10, 13, 14, and 15. Accordingly, the transmission line assembly disclosed in Lockwood is structurally and functionally different from the interposer recited in claims 1, 2, 4, 6-15, and 39-44. Because of the limitations in its teachings, Lockwood does not teach or suggest the interposer recited in these claims, and it may not be asserted that the teachings provided in Lockwood are sufficient for one of ordinary skill in the art to make the substitutions, combinations or other modifications that are necessary to arrive to the claimed invention as recited in these claims.

Furthermore, the physical elements taught by Lockwood for the purpose of assembling transmission line assembly 19 as an operative part of wafer probe 11 surround to a large extent tapered probe board 33, thus impeding direct heat dissipation. This is in contrast with the configuration of the claimed interposer that favors heat dissipation into the surrounding air. Accordingly, the transmission line assembly 19 disclosed in Lockwood teaches away from at least one of the purpose of the claimed invention, and thus a person of ordinary skill would be discouraged from following the path set out in Lockwood, or would be led in a direction divergent from the path that was taken in the claimed invention.

The wafer probe disclosed in Lockwood does not teach a terminal end on the planar surface of the substrate (claim 1) or sheet (claims 10, 13, 14, and 15). *See, e.g.,* Lockwood, Fig. 4, col. 4, ll. 36-37. Accordingly, the device disclosed in Lockwood does not teach or suggest an interposer that comprises the structural characteristics referred to above and that can establish electric contact

between its terminal end on the planar surface of the substrate (claim 1) or sheet (claims 10, 13, 14, and 15), and the electric apparatus.

Lockwood discloses a wafer probe 11 with a transmission line assembly 19 with ground conductors 31 and signal conductors 29 on a tapered probe board 33 of a dielectric material such as alumina. *See, e.g.,* Lockwood, Figs. 1, 3-8, col. 3, *ll.* 48-55. Accordingly, Lockwood teaches a tapered probe board made of a material that has a certain electric property, namely being a dielectric, and the example of alumina is given therein. Lockwood does not recite other materials and Lockwood does not teach which dielectric materials will be suitable for the heat dissipating purposes of the substrate of the invention recited in claims 7, 9, 39-41 and 46-48. Therefore, Lockwood does not teach that materials such as the nitrides and carbides recited in claims 7, 9, 39-41 and 46-48 are suitable materials in the context of the claimed invention. Because of the limitations in its teachings, Lockwood does not teach or suggest the interposer recited in claims 7, 9, 39-41 and 46-48, and it may not be asserted that the teachings provided in Lockwood are sufficient for one of ordinary skill in the art to make the substitutions, combinations or other modifications that are necessary to arrive to the claimed invention as recited in these claims.

Because of differences and limitations such as those described hereinabove, Lockwood has not suggested the claimed subject matter, and it may not be asserted that the teachings provided by Lockwood are sufficient for one of ordinary skill in the art to make the substitutions, combinations or other modifications that are necessary to arrive to the claimed invention as recited in claims 1-2, 4, 6-15 and 39-48.

In addition, Lockwood does not provide any suggestion or teaching that the claimed invention should have been carried out and would have had a reasonable likelihood of success. To this respect, the Federal Circuit has explained that “[t]he consistent criterion for determination of

obviousness is whether the prior art would have suggested to one of ordinary skill in the art that this process should be carried out and would have a reasonable likelihood of success.” (Citations omitted). *Rockwell Int’l Corp. v. United States*, 147 F.3d 1358, 47 U.S.P.Q.2d 1027, 1033 (Fed. Cir. 1998). Furthermore, “[b]oth the suggestion and the expectation of success must be founded in the prior art, not in applicant’s disclosure.” *In re Dow Chemical Co.*, 837 F.2d 469, 473 (Fed. Cir. 1988).

As reasoned above, in light of these differences and limitations in Lockwood, “a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant.” *United States v. Adams*, 383 U.S. 39, 52 (1966). See also *W.L. Gore & Assocs. v. Garlock, Inc.*, 721 F.2d 1540, 1550-51 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984).

Consequently, Applicant respectfully submits that Lockwood does not support a *prima facie* case of obviousness regarding claims 1-2, 4, 6-15 and 39-48. Applicant respectfully requests the reconsideration and withdrawal of this rejection.

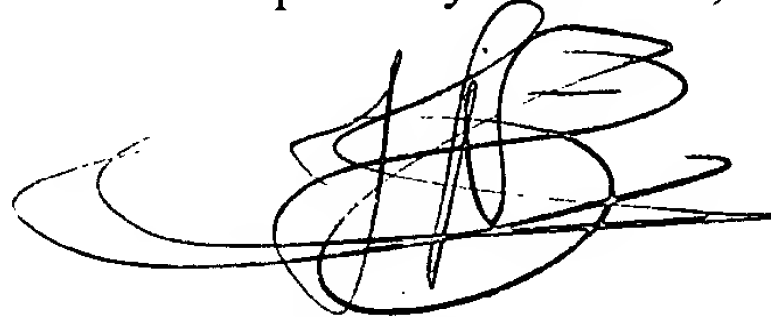
3. CONCLUSIONS

In view of the above, Applicant respectfully maintains that the present application is in condition for allowance. Reconsideration of the rejections is requested. Allowance of claims 1-2, 4, 6-15 and 39-48 at an early date is solicited.

In the event that the Examiner finds any remaining impediment to a prompt allowance of this application which could be clarified by a telephonic interview, or which is susceptible to being overcome by means of an Examiner's Amendment, the Examiner is respectfully requested to initiate the same with the undersigned attorney.

Dated this 26th day of February 2001.

Respectfully submitted,



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